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Pacific Northwest Agriculture and The Shipping Act of 1984*

by Wesley W. Wilson and Kenneth L. Casavant**

ABSTRACT

Shippers of agricultural commodities overseas by container are confronted by both changing market conditions and the new legislation of the Shipping Act of 1984. In this paper the salient features of the Shipping Act of 1984 as they pertain to agriculture are assessed. First, a brief overview of the major provisions of the Act is provided. Second, survey results concerning views of PNW agricultural shippers towards the major provisions of the Act are reviewed. Empirical evidence is then provided assessing implications of the Act and of differing effects of the conference system on transportation rates and trade. Finally, an analysis of the effectiveness of shippers in using specific provisions of the Act to affect rates is provided.

I. INTRODUCTION

Exports of agricultural products by container have been increasing. However, recent passage of the Shipping Act of 1984¹ may significantly affect the market for international transportation of commodities by container. In the Act there are both potential benefits and costs in that some provisions improve the ability of exporters to compete internationally while others reduce export competitiveness. Evaluation of gains and losses attributed to the Act and, in particular, the causes of price (rate) movements is complicated by depressed and changing market conditions that coincide with passage of the Act. Nonetheless, the need to delineate the implications of the Act from the implications of changing transportation market conditions caused by increasing capacity, changing prices, etc. is critical in evaluating the Act.² This paper provides a brief overview of the Act, emphasizing Pacific Northwest agriculture and the ability of agricultural exporters to compete internationally under the provisions of the Act. Considerable attention is given to the sources of market power and the forces inhibiting that market power in international transport markets. Results of a survey of Pacific Northwest agricultural shippers are then used to evaluate the impact of the Act on these shippers.

II. THE SHIPPING ACT OF 1984

Conferences and Conference Agreements

A conference is an association of ocean common carriers. Under maritime law, conferences are permitted to engage in concerted activities subject to a conference agreement filed with the Federal Maritime Commission (FMC). An operable agreement

allows participation by carriers in a variety of activities that are immune from antitrust laws. These activities include, but are not limited to, 1) discussing and fixing rates; 2) allocating traffic; and 3) controlling competition. By most accounts such activities define a cartel. However, the critical question is not whether conferences represent legalized cartels but whether the cartels are effectively exerting market power under the Act.

While the Shipping Act of 1984 did little to change the "cartel nature" of conferences, the manner in which conference agreements become operable was significantly changed. In streamlining the process, the FMC no longer has the authority to disapprove agreements; these agreements now become effective 45 days after the filing or 30 days after being published in the Federal Register.³ Prior to the Act, agreements were subject to FMC approval, given only after notice and hearing. Given intervention by shippers, ports, competing carriers, and antitrust departments, Mickey⁴ points out "There was no time limit for these proceedings; not surprisingly, approval of many of these agreements by the FMC took years." Hence, from the liner perspective, a major benefit of the Act is that it has eased entering into and modifying agreements. Since approval of agreements is necessary to legally engage in cartel activities, the streamlining of the process is a major benefit to the conference system.

While shippers have lost the right to intervene at the FMC level, the right to challenge an agreement is still available through the court system. In addition, there are a variety of checks on conference market power. These include constraints on agreements, as well as new provisions changing the marketing of ocean transportation services. With regard to conference agreements, membership into the conferences must be open⁵ and all agreements must allow any member of the conference to take independent action on any rate or service item required to be filed in a tariff. Such independent action will be effective with no more than 10 days notice to the conference. The Act also authorizes new provisions regarding service contracts and shipper associations.

Open Conferences

There are two specific kinds of conferences based on membership: closed and open conferences. In a closed conference, a new member is admitted if existing members find admission in their interest. In an open conference, all carriers generally face the same set of requirements to gain membership to the conference and, if a particular carrier satisfies these requirements,⁶ it must be admitted to the conference upon application. Of the approximately 400 con-

in the United States markets. These, by law, must be open. In general, open conferences involve U.S. trades, while non-U.S. trades are usually closed.

Whether conferences should be open or closed has been a matter of considerable debate.⁷ As pointed out by Sletmo and Williams, "Some closed conferences have achieved full rationalization of their services through a careful coordination of sailing schedules..." While full rationalization is not illegal by U.S. maritime laws, historical differences in profit levels, rate, and load factors have favored the closed form of conference organization. Hence, from society's perspective the efficiency gains of full rationalization need to be weighed against the costs of greater market power granted to the ocean carrier.⁸

Specifically, the lower costs associated with better coordination must be larger than the higher costs associated with the reduced output and the potential deadweight loss associated with a fully rationalized closed conference. While the open versus closed issue centers on rationalized services, there is no specific reason for the lack of rationalization of services in an open conference, except that rationalization of services may be subject to a free-rider problem. In an open conference with varying membership and changing capacity over time, enforcement becomes more difficult than with a closed conference. It has been maintained that the great difficulty with full rationalization of U.S. conference services is that "...it requires approval by the Federal Maritime Commission. However such approval is at best difficult, and often impossible, to obtain."⁹ If this is the rationale for differing rationalization levels, the Shipping Act of 1984 would be expected to narrow such differences by streamlining the regulatory process governing approval of conference agreements and reducing the advantage of the closed conference over the open conference. However, in terms of seeking market power, the closed conference will still retain an advantage in terms of cartel enforcement.¹⁰

Mandatory Right to Independent Action

One of the most controversial provisions of the Act is the mandatory right to independent action (IA). Section 5(b)(8) of the Act governing conference agreements requires that each conference agreement "provide that any member of the conference may take independent action on any rate or service item required to be filed in a tariff...upon not more than 10 calendar days notice..." Operationally, conference carriers file a tariff rate to which they have agreed. An independent action tariff rate is a departure from the conference rate by one of the members. Therefore, an independent action rate represents a departure of a carrier from collusively set rates.

In markets with excess capacity and falling prices cartel coordination is difficult. The right to independent action by conference lines allows carriers to "cheat" without retaliation by other conference members except on a price basis. Hence, the right to independent action can encourage "price wars"; destructive competition can result because of the existence of high fixed costs and excess capacity, resulting in falling prices.¹¹

From a shipper's perspective the right to indepen-

dent action is important for a variety of reasons. First, when demand for a specific voyage is low relative to capacity, i.e., the ship is not full, the shipper is in an unusually strong bargaining position vis a vis the carrier. In such cases it is easy to understand why shippers favor the right to independent action and might favor a nonexistent or relatively short notice period. A second issue pertaining to the short notice period is that many shippers operate in a short time frame in marketing their often perishable products. Having rigidities imposed on transportation rates, particularly downward, can result in lost sales because the system is unable to reflect current market conditions and true short-run costs. In general, shippers tend to view the conference system as being weakened by the right to independent action, thus causing carriers to react to their individual needs and not the needs of other carrier members in the conference.¹²

From the carriers' perspective the right to independent action is also viewed as weakening the conference system. First, an independent action rate is usually lower than the conference rate.¹³ Second, with a short notice period the conference is not as able to work out the differences that led to the independent action. Third, if independent actions reduce the attractiveness of a carrier joining a conference, the conference system is weakened by the fact that there is one more nonconference carrier competing in the trade.

Experiences with independent actions have been quite varied. In highly competitive trades, independent actions have been used extensively. For example, in the Transpacific Westbound Rate Agreement (TWRA), covering trade from U.S. to the Pacific Rim countries, an estimated 19,000 independent actions were filed in 1986.¹⁴ While the number of independent actions is only indicative of the lack of cartel coordination, significant rate differences between the conference and independent action tariff are also observed. Most of the evidence provided suggest the IA rates are 10 to 25 percent lower than the corresponding conference rate.¹⁵

Service Contracts

Service contracts have been said to "...have probably done more to damage carrier revenues and viability than anything else in recent years."¹⁶ A service contract is formed between a shipper and a carrier or conference when a shipper commits to provide a certain minimum quantity of cargo over a fixed time period, and a carrier commits to a certain rate or rate schedule as well as a defined service level. By the provisions of the Act, a common carrier cannot engage in unfair or discriminatory practices with respect to rates, cargo space accommodations, etc. except under the terms of a service contract. In contrast, through formal rulemaking, the FMC has determined that a loyalty contract is essentially a service contract but expressed in terms of a percentage rather than a fixed number of containers. Loyalty contracts are permissible under the Act but are not exempted from the anti-trust laws.

A second issue concerning service contracts pertains to public disclosure. Under the Act, service contracts are to be filed confidentially with the FMC, but the essential terms of the contract must be made available to the general public.¹⁷ The primary

reasons for non-public disclosure include the invitation of rate wars and the need for rate stability. The primary reasons cited for public disclosure are that it allows trades to be conducted on a more equitable basis (smooth information) and that service aspects of contracts are less important than rates and consequently service contracts are just another form of time/volume tariff rates. The fact that conference carriers tend to favor disclosure can be explained as the need for a mechanism to detect departures from the conference agreements (detection of cheating). One difficulty with cartel agreements is detecting cheating. Legislated public disclosure enables "cheating" to be identified by the cartel and then dealt with. The "crazy eddie" and "most favored shipper" clauses¹⁸ can be considered as responses by liners to detected departures from conference agreements.¹⁹ If the conferences are able to identify an agreement or some mechanism to discourage "cheaters" then the disclosure of service contracts will strengthen the conference system. Already such mechanisms, such as the elimination of individual service contracts by TWRA, have been identified.

A third issue pertains to the minimum quantity component of service contracts. At issue is the development of a legal minimum quantity that is a meaningful minimum. Specifically, the 1984 Act specifies that a service contract be formed for a legal minimum. There is no requirement that the minimum be large. Apparently the problem is that an individual shipper might obtain several contracts, each with small volumes, and play carriers off against one another for rate concessions. Also at issue with respect to minimum quantities is whether the minimum quantities are reflected in terms of a percentage or in terms of a specific volume. The latter makes administering the contract terms easier. The former allows flexibility. Shippers as well as carriers operate in changing economic conditions, trade restrictions, etc. A contract specifying that a percentage of the shipper's volume goes by a given carrier is considerably more flexible than a contract specifying the actual minimum volume, especially for agricultural shippers with varying production levels year to year.

The final issue pertaining to service contracts pertains to the mandatory right to independent action on service contracts. Independent action on service contracts is a departure from the conference rate and/or conference contract by an individual carrier. Obviously, independent actions on service contracts weaken the conference and have resulted in an attempt to ban independent actions on service contracts by the TWRA. From a shipper's perspective, the right to independent action by service contract allows the shipper more bargaining power with carriers if carriers with excess capacity can be identified.

Shipper Associations

The final check on cartel power pertains to shipper associations. A shipper association is a nonprofit organization of shippers that consolidates or distributes freight for the members of the group to secure carload, truckload, or other volume rates or service contracts. Shipper associations are *not* exempted from antitrust laws.

In essence, the right to form shipper associations

represents an attempt by framers of the Act to counterbalance market power held by conferences by strengthening the bargaining position of the shippers. In the framework of the doctrine of countervailing market power, shipper associations consolidate the power of a set of shippers. This power then can be used to offset the market power of the conference.²⁰ The usefulness of this approach is limited since antitrust immunity is given to the conference but not to the shipper associations. Nonetheless, shipper associations can apply for Business Review Letters from the Department of Justice and Advisory Opinions from the FTC to evaluate the potential for antitrust liability. In addition, the Export Trading Company Act of 1982 provides some protection from antitrust exposure. In short, to the extent that bigness has advantages, shippers may benefit from consolidation of their ocean transport activities.

III. SURVEY PURPOSES AND METHODOLOGY

A survey of agricultural shippers in the Pacific Northwest was designed to obtain shipper views and experiences with the issues outlined in the last section. In addition, the survey allowed an overview of firm characteristics and marketing practices used to export commodities overseas as well as the recent problems firms have been experiencing. Finally, information was gathered through the survey that enabled an assessment of the impact of conferences and the Shipping Act of 1984 on the ability of U.S. exporters to compete internationally.

A total of 174 west coast agricultural firms were surveyed,²¹ with 97 questionnaires returned. Fifty usable forms comprise the data employed in this analysis. The other 47 included 2 firms that were out of business, 10 firms that exported through other firms, and 35 firms that did not export.

The 50 responding firms included 7 hay, 8 onion, 7 potato, 12 lumber, and 16 apple exporters. Only 7 of the 48 are cooperatives. In general, the firms have been in both business and exporting for a substantial length of time, with an average of 35.9 and 21.5 years, respectively. Hence, the firms are expected to be fairly knowledgeable about their businesses and about exporting their products.

Firms differed widely in their dependence on export markets. The average percentage of total shipments exported was 52.6 percent, with half of the exporting firms relying on export markets for at least 50 percent of their shipments. By commodity the corresponding figures are 82 percent for hay, 56 percent for onion shippers, 69 percent for lumber, 41 for apples, and 21 for processed potato shippers.²² On average, export markets do represent a significant part of these shippers' business. Consequently, among these 50 business firms representing some of the major exporting firms in the Pacific Northwest agricultural trade, there is substantial interest in the legislation concerning the shipping industry.

IV. OVERVIEW OF SURVEY RESULTS

In this section shippers' recent experiences in international shipping and their perceptions of the impact of the Shipping Act of 1984 on their ability to

export is documented. In this regard the level of rates, the volatility of rates, and container availability are addressed. Second, the views of shippers relative to the issues addressed in Section II pertaining to the need for the conference system and the organization of the conference system, the need for the mandatory right to independent action, confidentiality, etc. are reported. Finally, a brief discussion is made of shippers' use of differing arrangements (e.g., service contracts) through time.

Problems of Shippers Attributed to the Act

Most of the shippers (26 of 40) indicated the Shipping Act of 1984 had increased rates charged for ocean transportation. However, of those responding how much they thought rates would change if the Shipping Act were repealed (18), 6 firms reported rates would increase an average of 20 percent, 10 others reported rates would decrease an average of about 18 percent, and the remaining two firms stated rates would not change as a result of repealing the Act. Hence, there is no clear cut distinction in terms of direction of movement or about the impact of repealing the act, although a majority of shippers felt the Act had an effect of increasing prices and believe rates would decrease if the Act were repealed.

Twenty-four of thirty-six respondents (67%) stated that the impact of the increased levels of rates was loss of some sales during their marketing year. Further, 11 of 25 reported that increased rates as a result of the Act resulted in the loss of a market. In short, the impact of the Shipping Act, via the level of rates, is considered by shippers to have caused loss of sales and, for 44 percent of the exporters, a total loss of a market. These findings agree with shipper concerns expressed over the past year to United States Department of Agriculture officials that they are being priced out of some markets and/or have lost sales as a result of increased rates.

Second, shippers strongly felt, 32 of 41 (78%), that the act had increased the volatility of rates. Furthermore, this increase in volatility had impacted the ability of firms to compete in the international market. Twenty-three firms reported that they had lost individual sales while only eleven stated they had not lost any specific sales. In addition, 10 of 23 firms (43%) stated they had lost a total market. In short, the inability to accurately forecast rates appears to have impaired shippers' abilities to export in terms of both individual sales and markets.

Third, despite the reports of overtonnage, the majority of shippers reported difficulties in obtaining containers. Thirty-six shippers reported difficulties in obtaining containers, while only twelve reported no difficulties. The difficulties in obtaining containers had translated into lost sales, even more so than rate levels and volatility, with 28 of the 37 shippers reporting they had lost sales as a result.

Shippers and the Shipping Act of 1984

A number of aspects of ocean conferences and provisions of the Shipping Act of 1984 pertaining to the stability of conferences and the effectiveness of conferences was discussed in Section II. In this

section a brief summary of the position of agricultural shippers in retaining specific provisions of the current system is presented, thus revealing shippers' perceptions of the attractiveness of these provisions.

Thirty-eight of thirty-nine agricultural shippers favor retaining "open" conferences. Of course, this finding is consistent with the hypothesis that the effectiveness of closed conferences in exploiting market power exceeds the purported savings associated with full rationalization. Essentially, the agricultural shippers' responses are consistent with the hypothesis that greater market power, despite the impact of lower carrier costs, would result in increased shipper distribution costs.

While in favor of retaining the open nature of conferences, exporters are not uniformly in favor of the conference system design. Specifically, of a total of 38 exporters having an opinion, 22 indicated they are in favor of eliminating the conference system while 16 were in favor of maintaining the conference system. Finally, 27 shippers suggested that rates would decrease an average of 10.7 percent if shipping conferences were eliminated. The responses ranged from -33 percent to +30 percent, with all but two reported values negative (if those values were deleted, the average expected decrease would be 14 percent). In short, all responding exporters were in favor of an open conference and most thought the overall effect of conferences was to increase rates, but no clear-cut consensus has been reached on whether increased rates and other problems warrant removing the conference structure.

Most shippers, 37 of 46 (80%), responded positively to the need to retain the mandatory right to independent action by conference carriers. In addition, in terms of the length of time before an Independent Action becomes effective, most shippers favored a relatively short time period with 29 of 42 (69%) favoring a notice period of 10 days or less. From the shippers' perspective the preference for the mandatory right to independent action with a short notice period is easily explained by an examination of pricing behavior by carriers and shippers. Operating on a fixed schedule, a carrier with a less than fully loaded ship will more likely yield downward rate concessions, given relatively low marginal costs. Shippers are in a much better bargaining position during such time periods; thus, with several liners operating, Independent Actions (IA's) with a relatively short time period can be used effectively by motivated shippers to attain lower rates.²² The survey evidence suggests that through time agricultural shippers have been able to successfully negotiate IA rates, with 27 out of 39 (70%) shippers reporting that at least some of their tonnage has moved under IA rates, averaging 35, 29.5, and 29 percent of all their shipments in 1985, 1986, and 1987, respectively. In the next section of this paper, the impact on rates that firms achieve as a result of accessing IA's will be statistically characterized.

Service contracts represent still another provision of the Act that has been used in some markets. In general, agricultural shippers, 40 of 46 (87%), favor the right of individual carriers (in or out of conferences) to negotiate service contracts. The responses of agricultural shippers suggest that the use of service contracts with individual carriers is a potentially important pricing mechanism, which can

be used to negotiate more favorable rates. Currently, the TWRA allows service contracts only when formed with the conference. In addition, a majority of shippers, 26 of 44 (59%), indicated that when service contracts are formed the "essential terms" of the contract should be publicly available. Of course, the use of service contracts with several carriers, combined with publicly available terms in a period of overtonnage, can result in shippers attaining increased bargaining power over individual carriers. In our sample the use of service contracts has been quite limited with only 5, 6 and 7 of the 38 exporters reporting that service contracts moved any tonnage in 1985, 1986, and 1987, respectively. Interestingly, all commodities were represented.

V. THE IMPACT OF THE SHIPPING ACT OF 1984

The major issues of the Shipping Act of 1984 and how agricultural shippers have perceived the issues were discussed in previous sections. In this Section the impact of conferences and the Act on specific trade volumes and rate levels is assessed from the perspective of shippers.

Survey data allowed a shippers' perception on the impact of the conference system and the Shipping Act of 1984 to be evaluated in terms of economic principles. First, shippers were asked what they thought would happen to their volumes if ocean transport rates increased/decreased 20 percent, respectively. The average response was -27 and 24 percent for increased and decreased rates with 30 and 29 shipping firms responding, respectively. These values translate into *perceived* elasticities of slightly greater than -1.

In addition to the elasticity questions, carriers were also asked to reflect their perceptions of the impact of shipping conferences and of the Shipping Act of 1984 on transportation rates. With only two exceptions the 27 respondents indicated the impact of the conference system is to hold rates higher than rates would be without the conference system. Of the total respondents (N=27) the average perceived price decrease was 10.7 percent; if the two positive values are removed the average price decrease was about 14 percent. These values, in conjunction with the elasticity values (taken as -1), translate directly into a perceived increase in trade of 10.5 and 14 percent if the conference system were abandoned. Again, this is based on the perceptions of shippers who had been in business for around 36 years and had been active exporters for 22 years.

When asked what would happen to rates if the Shipping Act of 1984 was repealed, the responses were much more varied. A total of 18 responses reflected an average of a decrease in prices of only 3.4 percent. However, the responses included positive (6 of 18) and negative answers (10 of 16), with average values about 20 and -18 percent, respectively. In addition, comparing responses' direction (rates up or down) there is no perceptible variation of responses across firm size²³ or by type of commodity. Hence, the perceived impact of the Shipping Act appears to be unsystematic in terms of commodities shipped or size of firm with any positive or negative impacts appearing to be special cases.

To assess the impact of the two special features of the Shipping Act of 1984 that are, perhaps, the most controversial—mandatory right of independent action and service contracts—rate differences across shippers were examined. In this regard the container rate (including BAF, CAF, and other charges) were regressed on commodity dummy variables (D1 = Hay, D2 = Onion, D3 = Potato, D4 = lumber), a dummy variable indicating substantial use of non-conference tariff items (NTI) afforded by the Shipping Act of 1984 (i.e., service contracts, independent actions), and interaction terms between commodity dummies and the use of non-tariff items (DNTI).²⁴ The results are summarized by²⁵

$$\begin{aligned} \text{Rate} = & 4787* - 4099*D1 - 3293*D2 - 686*D3 \\ & (206) \quad (326) \quad (413) \quad (357) \\ & - 3077*D4 + \{696 - 737D1 - 1041D2 \\ & (413) \quad (413) \quad (565) \quad (744) \\ & - 2297D3* - 1174*D4 \} \text{DNTI} \\ & (714) \quad (583) \\ = & 5265* - 4377*D1 - 3570*D2 - 963*D3 \\ & (194) \quad (290) \quad (362) \quad (316) \\ & - 3355* + 357 - 398D1 - 702D2 \\ & (362) \quad (316) \quad (457) \quad (617) \\ & - 1232*D3 - 912*D4 \\ & (506) \quad (469) \end{aligned}$$

$$R^2 = 96 \text{ percent}$$

$$\text{Adjusted } R^2 = 93 \text{ percent}$$

$$N = 33$$

The commodity dummy variables suggest that considerable rate differences exist across commodities. All commodity dummy variables are significantly different from zero and negative, while only the potato and lumber interactions are significantly different from zero. The primary reason for this relationship is that apples, used to represent the base regression model, are usually shipped refrigerated and at a high tariff rate. Potatoes, which are also generally shipped refrigerated, pay a significant amount less than do apple shippers. This suggests "value of service pricing" is alive and well in ocean transportation. The differences in means based on regression results with the significant use of non-"all conference" rates are summarized in Table 1.

CONCLUSIONS

The Shipping Act of 1984 has, indeed, had significant impacts on the international transportation of commodities by container. Agricultural products in the Pacific Northwest, increasingly moving into the export markets, are directly affected by these transportation changes. The conference system under the Shipping Act can be thought of as an attempt to balance market power between carrier and shippers while achieving efficiencies of transportation.

The Act drastically changed the manner in which conference agreements are structured. The FMC no longer has the authority to disapprove agreements, and such agreements now go into effect much faster.

TABLE 1

Impact of Significant Use of Service Contracts or Independent Action Conference Items

Commodity	Conference Tariff	Significant Use of IA or SC
Apples	5264	5622
Hay	888	847
Onion	1694	1350
Potato	4301	3427*
Lumber	1910	1356*

*Statistically significant value from the corresponding conference tariff rate.

Conferences must now be open and any member of the conference is allowed to take independent action on any rate or service, with not more than 10 days notice. Other new provisions of the Act were authorization of service contracts and shipper associations.

Major exporters of agricultural commodities by container out of the Pacific Northwest were surveyed as to shipping characteristics and their perceptions of the impact of the Shipping Act on their firms. These firms (61%) generally felt strongly that their rates have been increased significantly by the Act; further, most (67%) had lost sales because of these increased rates and some exporters had lost total access to individual markets. Most (78%) also felt rate volatility had become more pronounced, causing both lost sales and lost markets. Further, container availability was a marketing problem for 75 percent of the firms responding to the issue, with about 76 percent of these shippers reporting they had lost sales as a result of this container shortage.

These exporting firms also had strong feelings about the conference structure. They unanimously wanted open conferences, if a conference system were to be retained, but a majority were in favor of discarding the conference system. If the conference system were removed exporters generally expect rates to decrease about 10 to 14 percent.

Most shippers (80%) wanted mandatory independent action available to conference carriers, feeling they gained in market power and marketing flexibility. About 70 percent of the exporting firms felt these independent actions should go into effect in ten days or less.

Economic data from the survey suggested a perceived elasticity of demand for transportation of slightly greater than one, also suggesting a proportionate increase in trade would be experienced with a rate decrease. Statistical analysis revealed that decreased rates were achieved by those exporting firms able to negotiate service contracts and/or independent actions on refrigerated movements, but these results were not achieved for all commodities.

In summary, the responses of these major exporting business firms allowed an assessment of the Shipping Act. Conferences should be open and service contracts or independent actions, new provisions of the Act, are strongly desired by these firms. They appear to feel strongly that these provisions have made the conference structure, as determined by the Shipping Act of 1984, fairly workable. There is no urgent request to abandon the Act but instead a desire to monitor and modify is evident.

ENDNOTES

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**Assistant Professor, Department of Agr. Econ., Washington State University, Pullman, WA

**Assistant Professor, Department of Agr. Econ., Washington State University, Pullman, WA

1. Public Law 98-237.

2. Section 18(b) of the Act charges the Federal Maritime Commission, the Department of Justice, the Department of Transportation, and the Federal Trade Commission with providing analyses of the impact of the Act to Congress in 1989.

3. The 45-day period may become longer if the FMC seeks additional information or injunctive relief. Grounds for injunctive relief are the agreement's likelihood of increasing transport costs or decreasing service through a reduction in competition.

4. Mickey, Anne E., "Maritime Law and the World Trade in Forest Products," *Proceedings of the International Symposium on World Trade in Forest Products*, University of Washington, March 22-25, 1986.

5. Section 5(b)(2) of the Act states that an open conference is one which "provide[s] reasonable and equal terms and conditions for admission and readmission to conference membership for any ocean common carrier willing to serve the particular trade or route."

6. These requirements include certain minimum technical and financial standards.

7. Of course, the degree to which conferences are open or closed represents a continuum of levels of entry constraints. It is not simply a discrete constraint type of open versus closed.

8. These discussions of costs/benefits depend upon the ability of closed conferences to exercise greater market power and attain "fuller" rationalization than open conferences.

9. See Sletmo, Gunnar K. and Ernest W. Williams, *Liner Conferences in the Container Age*, New York: MacMillan Publishing Co., 1981, page xxxi.

10. For an overview of factors facilitating and limiting coordination in a cartel, see F.M. Scherer, *Industrial Market Structure and Economic Performance*, 2nd Ed., Chicago: Rand McNally

- (1980), Chapters 6 and 7.
11. Scherer lists several conditions that limit oligopolistic coordination, including, but not limited to, the length of retaliation lags, the number and size of firms, and cost structures.
 12. As reported in the Shipper Summary of the FMC, the flaw in the conference system was not independent action but the "lack of trust amongst the member lines." This statement goes hand in hand with Scherer's discussion of bad industry relations limiting coordination of oligopolies. See "Summary of 1986 Survey Results," Section 18 Study, Bureau of Economic Analysis, Federal Maritime Commission, 1986.
 13. As pointed out by Ron Gottshall, independent action rates are not always below the conference tariff rate. The former may be higher than the latter during period of short capacity. See John Davies, "Ship Act May Face An Early Review," *Journal of Commerce*, Jan. 1, 1987.
 14. This figure was reported by Ron Gottshall (see note 13).
 15. These data are based on the authors' discussions with shippers, limited survey evidence, and the FMC's shipper and carrier surveys. It is again pointed out that independent actions are not always used for rate reductions and can be used for rate increases.
 16. Reported by Gottshall, Managing Director of the TWRA (see note 13).
 17. The essential terms to be disclosed consist of the commodity or commodities involved, the minimum volume, the line-haul rate, the duration, service commitments, and the liquidated damages (if any) for nonperformance. Also included are the origin and destination port ranges in the case of port-to-port movements, and the origin and destination geographic areas in the case of through intermodal movements.
 18. A "crazy eddie" clause requires a carrier to either release the shipper from contract or meet the better terms if the shipper finds a "better deal" elsewhere. A "most favored shipper" clause dictates that the carrier must give the most favored shipper at least as good a deal as any other shipper that the carrier serves.
 19. "Conference agreement" is used here in the industrial organization sense of a collusive agreement, not in the legislated sense of an agreement approved by the FMC.
 20. In essence, this type of situation can be viewed as making the "weak" strong, as opposed to making the "strong" weak.
 21. The mail lists were taken from a variety of published sources and personal contacts with specific commodity associations.
 22. Discussions with shippers and rate analysts, inspections of tariff schedules, and the FMC survey results suggest these rate concessions can be substantial, averaging about 10 percent.
 23. Two different firm size measures were used: total tons shipped in a year, and total tons exported per year.
 24. Other variables, including size, experience, and available alternatives (i.e., charter, nonconference) were incorporated in early regressions with little success.
 25. The numbers in () represent the standard errors, while a * represents significance at the 10 percent level.